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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/779,076	02/07/2001	James M. Rochelle	26053.00	7830

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P O BOX 51295
KNOXVILLE, TN 37950-1295

EXAMINER

WIMER, MICHAEL C

ART UNIT	PAPER NUMBER
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2821

DATE MAILED: 04/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/779,076

Applicant(s)

ROCHELLE ET AL.

Examiner

Michael C. Wimer

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 January 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4-13, 16-23 and 28-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 4-13, 16-23 and 28-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 4-13, 16-23 and 28-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stewart et al. (6392547) in view of Avenel et al. (6407677).

Regarding Claims 4-13, 16-23 and 28-30, Stewart et al show a proximity monitoring system capable of accurate boundary detection independent of orientation comprising: a transmitter 21 including an antenna array 32, 33 that continuously generates a magnetic field based on the transmitted electrical signal and having an intensity within the area 23 and defining a boundary 24, a receiver module 25 including an antenna array 53-55 responsive to the magnetic field, in any direction, and connected to a single channel receiver 56 and a measurement circuit for determining a total power of the magnetic field incident at the antenna array.

Stewart et al do not teach three coils perpendicular to each other in the transmit circuit, but rather shows only two, 32 and 33. Thus, Avenel et al are cited as resolving the level of ordinary skill in the antenna art and teach the use of three perpendicular coils 1, 2, and 3 having and disposed along respective axes. Avenel et al teach that the emitter (i.e., transmitter) may employ these three loop coils. Thus, it would have been obvious to the skilled artisan to employ such an antenna arrangement in lieu of the two

axes/loop coils 32,33 of Stewart et al in order to provide an omnidirectional antenna radiation pattern, where three distinct planes are defined.

Also, Stewart et al do not specifically call the processor 61 a "measurement circuit", but in column 5, lines 30-53 suggest to the skilled artisan that the processor performs a number of different functions. It would have been obvious to the skilled artisan that the processor must determine the total power or signal strength at the antennas 53-55. The three antennas are oriented in three distinct and different axes, and thus the total power is connected to a common node connected to the detector 56 connected to the demodulator 60 and connected to the processor 61. Stewart et al discuss the intensity threshold indicative that the receiver tag 25 is proximate the base station 21 within the perimeter 24. One skilled in the art recognizes as obvious that there is a measurement circuit implied in the circuitry since there is a preset threshold power level employed in the system. A skilled artisan would find it obvious that the threshold power level is achieved by measurement of the total power incident at the antenna array. The acknowledgement detection function (col. 5, lines 51-54) cannot be performed without the total power incident on the antenna array being measured.

In a typical voting antenna system, power or signal strength at each antenna is measured and selected. Total power of the antennas is measured relative to other antenna elements and thus the proper antenna is employed in the respective plane. Regarding Claims 4-6,12-14, it would have been obvious to the skilled artisan to employ three transmitting antennas and/or two receiver antennas, and notice of such use is hereby taken. As to Claims 7 and 28, the line frequency multiple defining the carrier

frequency is an obvious method used in transmitters. As to Claims 8 and 16-23, the oscillator and PLL and amplifiers, etc., are all obvious transmitter components in the Stewart et al system, and would therefore be obvious to employ therein, by the skilled artisan. As to Claims 9-11, the particular modulation technique, in such a communication system, is also obvious to the skilled artisan.

Response to Arguments

3. Applicant's arguments filed 26 January 2004 have been fully considered but they are not persuasive. Specifically, regarding applicant's remarks to the precedential status, the rejection based upon Stewart alone was withdrawn based upon applicant's affidavit. It still qualifies as a reference when combined with another to establish the level of ordinary skill and evidence of obviousness according to *Graham v. Deere*.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Regarding the remarks to the obviousness, the motivation to combine is to allow a three dimensional and omnidirectional antenna system to be defined when employing the antenna of Avenel et al. Mere substitution of antennas is obvious for providing specific pattern control. Specific modulation schemes are always obvious to employ by the skilled artisan absent any specific unexpected results. Signaling is accomplished based

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upon rules in the band of use set forth by the FCC and equipment available for use therein. Such a substitution is the case in this record where the band of use is selected according to licensing rules for the particular communication system.

Regarding applicant's arguments relative to the number of coils not recited in Claims 28 and 30, the preamble sets the stage for use of a system. Applicant's preamble in both Claims 28 and 30 recite that the boundary detection is independent of orientation. A three axis antenna system is required to meet such an environment. Avenel et al provide such a system.

Since evidence of obviousness has been shown in view of the combination of prior art it is not seen how the claims at issue patentably define thereover. The rejection stands.

Conclusion

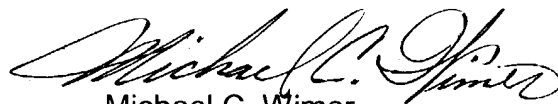
4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael C. Wimer whose telephone number is (571) 272-1833. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don K. Wong can be reached on (571) 272-1834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Michael C. Wimer
Primary Examiner
Art Unit 2821

MCW

07 April 2004